

IN THE CLAIMS

1. (currently amended) A method for calibrating an X-ray imaging system, said method comprising:

configuring an output of a calibration image source in a pattern to define a calibration image;

generating a calibration image within an X-ray imaging system using the calibration image source; and

determining an image distortion of the X-ray imaging system based upon a plurality of samplings of the calibration image for calibrating the X-ray imaging system.

2. (original) A method in accordance with claim 1 further comprising calibrating the X-ray imaging system using the calibration image.

3. (original) A method in accordance with claim 2 wherein the calibrating is performed after one of determining a change in an external source causing distortion and moving the X-ray imaging system.

4. (original) A method in accordance with claim 1 wherein the X-ray imaging system comprises an image intensifier and the generating is performed within the image intensifier.

5. (original) A method in accordance with claim 1 further comprising measuring an output image generated based upon the calibration image to determine the image distortion.

6. (original) A method in accordance with claim 1 wherein the calibration image comprises a pattern.

7. (original) A method in accordance with claim 6 wherein the pattern comprises one of a grid, a plurality of dots and a pattern of shapes.

8. (original) A method in accordance with claim 1 wherein the generating a calibration image comprises generating a light pattern.

9. (original) A method in accordance with claim 1 wherein the generating a calibration image comprises generating a non-X-ray pattern.

10. (original) A method in accordance with claim 1 wherein the determining comprises comparing the calibration image to an output image to determine the image distortion.

11. (original) A method in accordance with claim 1 wherein the calibration is performed in connection with a mobile X-ray imaging system to compensate for changes in non-uniform magnetic fields.

12. (original) A method in accordance with claim 1 further comprising compensating for the image distortion.

13. (original) A method in accordance with claim 1 wherein the X-ray imaging system comprises a calibration image source within an image intensifier for generating the calibration image within the image intensifier, the calibration image source positioned within the image intensifier generally at an end of the image intensifier that is closer to an output window than to an input window.

14. (currently amended) A method for determining distortion in an X-ray imaging system, said method comprising:

generating a light pattern at an output of a calibration image source within an image intensifier of an X-ray imaging system;

comparing to the light pattern output of the calibration image source a plurality of outputs ~~an output~~ produced by the image intensifier that are interpolated to the ~~light pattern output of the calibration image source~~; and

determining a distortion based upon the comparison.

15. (original) A method in accordance with claim 14 further comprising compensating for the distortion.

16. (original) A method in accordance with claim 14 wherein the light pattern comprises one of a measurable and identifiable pattern.

17. (original) A method in accordance with claim 14 wherein the image intensifier comprises a calibration image source having at least one laser light source for generating the light pattern.

18. (original) A method in accordance with claim 17 wherein the laser light source comprises a grating for creating the light pattern.

19. (currently amended) A system for determining distortion within an X-ray imaging device, said system comprising:

a calibration image source within an image intensifier configured to generate a calibration image pattern at an output of the calibration image source for use in determining distortion within the X-ray imaging device based on a plurality of samplings of a correction image generated from the calibration image pattern.

20. (original) A system in accordance with claim 19 wherein the calibration image comprises a pattern.

21. (original) A system in accordance with claim 19 wherein the calibration image source is positioned within the image intensifier generally at an end of the image intensifier that is closer to an output window than to an input window, and directed generally towards the input window.

22. (original) A system in accordance with claim 19 wherein the X-ray imaging system comprises a mobile X-ray imaging system.